

Summary

Brazil has an extensive and well-developed maintenance sector that has been gradually growing in the past two years. Brazil's maintenance market is expected to show strong growth in 2006. This report is designed to provide a broad overview of this industry's market. If you do not see an opportunity for your product here, please visit our website, www.buyusa.gov/brazil, and consider contacting us directly to find out if we can help your company export to Brazil.

Overview

The world aviation maintenance market is still recovering from the terrorism attacks of September 2001.



www.aviacaoemrevista.com.br
Source: aviacaoemrevista.com.br

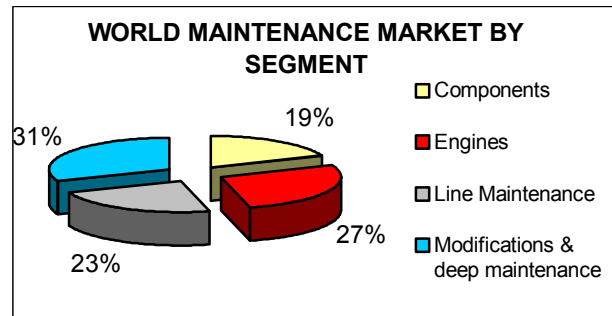
Total market revenue in 2004 and 2005 was US\$ 36.1 million and US\$ 37 million respectively. This represents a twelve percent decrease when compared with the US\$ 42.2 million market of 2001. Despite these numbers, the market is heating up again. According to a report from the Overhaul & Maintenance magazine, over the next 10 years the world aviation maintenance market should grow by approximately 2.9 percent per year, reaching approximately US\$ 49 million in 2015.

The maintenance market can be divided into four segments: components, engines, line maintenance, and modifications & deep maintenance. In 2004, the engines segment represented 27 percent of the maintenance market's share. During the next 10 years, the engines maintenance market foresees an increase of almost thirty percent. The growth of this segment is, in part, due to the expansion of the regional jets market.

The Brazilian aeronautic industry is among the most highly developed industries in the Latin America region, and is known for its outstanding engineering. Brazil is considered a leading player in the aeronautic maintenance market worldwide not only because the country is the largest industrial economy in Latin America, but also because Brazil imports approximately US\$ 788 million per year in parts for helicopters and aircraft. All major engine manufacturers have a local presence in Brazil, and most of them have been investing heavily in order to expand their portfolio and improve their services.

The Brazilian Aeronautic maintenance park is composed of a large number of maintenance repair centers divided into five groups according to the services offered: cells, engines and turbines, avionics and flight systems, parts and components, and training and labor. In the Engines segment, the following world leaders are established in Brazil: Rolls Royce, General Electric, Pratt & Whitney, MTU Aero Engines, and the French company Turbomeca. In the avionics area, there are innumerable workshops including Rockwell Collins, Honeywell, and Líder Signature. There are also national companies such as VEM – Varig Engenharia & Manutenção, Turboserv, TAM, and PAMA (Aeronautic Maintenance Park) specialized in military aviation.

In the cells segment, around 15 percent of the maintenance workshops in Brazil are equipped to provide these types of services, in addition to aeronautic refurbishment and modernization. The companies in this sub-sector are spread throughout Brazil, but there is a strong concentration of them in a few aeronautic parks, such as the Campo de Marte Airport in Sao Paulo, the Jacarepaguá Airport in Rio de Janeiro, the airports of Jundiaí and Sorocaba, located in the interior of Sao Paulo, and in the airports of Belo Horizonte and Goiânia.



Source: Evolução do Mercado de Manutenção Aeronáutica – April 2004. www.geocities.com/eaglesgate

Aircraft maintenance used to be all about following maintenance manual guidelines, replacing and repairing parts and components, carefully documenting the work while keeping an eye on the profit margin. Although there are still the nuts and bolts of aviation maintenance, airlines and aircraft operators are beginning to expect more from the maintenance workshop centers that service their aircraft. Nowadays, many maintenance workshop service centers are understanding that customer service is a competitive advantage, and are developing a larger commitment to their clients.

Engines Maintenance Segment

The segment of engine and turbine maintenance witnessed a gradual recovery in 2005, particularly with respect to big engines used in the commercial aviation fleet. Brazil currently has over 400 large-sized aircraft used primarily in national and international routes, but increasingly in the growing market of regional aviation. In 2005, Brazil imported approximately US\$ 3.9 million in parts for aviation engines. From this total, US\$ 3.5 million came from the United States.

In regional aviation, there is a clear increase in the purchase of engines (turbines and turbo props), maintenance and review services, both representing a good business opportunity for U.S. suppliers. This is one of the areas with the highest growth potential in the Brazilian market, which has had an average expansion rate of eight percent per year. Rolls Royce, General Electric, Pratt & Whitney, MTU Aero Engines, and Turbomeca all have an established presence in Brazil.

ROLLS ROYCE: Rolls Royce established its maintenance center in São Bernardo do Campo, in the state of São Paulo in 1958. The company is one of the leaders in the Brazilian market. They manufacture certain components and assemble a number of turbines in partnership with GE. In 1997, the company created a helicopter department in order to provide maintenance for helicopter engines.

MTU: MTU is one of the biggest aeronautical maintenance groups in Europe. In Brazil, the company has been operating its office for Latin America, in São Paulo, since July 2000. The company went through several changes lately. In 2004 the company was under KKR – Kohlberg, Kravis and Roberts control, a U.S.-based Investment Banking Firm. However, KKR's participation was reduced to only 20 percent in July 2005. MTU manufactures and carries out the maintenance of both military and civil aeronautics engines, ranging from the PT 6 engine to the CF6-80. MTU has significant market share. According to MTU's Brazilian head, the company holds 30 percent of the maintenance market of V-2500 turbines. MTU's maintenance services in Brazil are directed towards aircraft motor-propeller and industrial turbines. It serves customers directly at its workshops. When services are more complex, the turbines are sent to Hanover, Germany.

PRATT & WHITNEY: Pratt & Whitney established a local base in Brazil in 1999. The subsidiary's major goal is to service P&W engines for all its South American operators and to reduce costs and enhance fleet availability. Regional and executive aviation are P&W's focus. According to their General Manager, there are currently about 150 to 200 P&W turbo prop engines operating in the Brazilian market.

GE CELMA: Located in Petrópolis, in the state of Rio de Janeiro, GE Celma has been in the Brazilian maintenance market for 54 years. Their field of operation is directed towards the review of aeronautic turbines for the commercial aviation market. There are three different GE engines that pass by through company's workshop, the CFM 56-3, CF6-50 and CF6-80C2. In 2004 the company reviewed 145 turbines, and 190 in 2005. For 2006, its goal is to review 250 turbines, which would represent a significant increase of approximately 72 percent over two years. According to their Director President, during the past two years GE Celma has invested approximately US\$ 20 million. Last year the company's revenue was approximately US\$ 300 million. For 2006, the company is projecting annual revenues of US\$ 400 million equating to 25 percent growth.

Cells & Avionics Maintenance Segment

Approximately 15 percent of maintenance repair centers provide cells services, in addition to refurbishing and modernization services. The companies are spread throughout Brazil, but there is a strong concentration of them in a number of aeronautic parks, such as the Campo de Marte Airport in Sao Paulo, the Jacarepaguá Airport in Rio de Janeiro, the airports of Jundiaí and Sorocaba, located in the interior of Sao Paulo, and in the airports of Belo Horizonte and Goiânia.

TAM - TAXI AÉREO MARÍLIA: In 2004 TAM inaugurated its own maintenance center in Jundiaí, the state of Sao Paulo, where the company does aircraft maintenance repair services not only for its own fleet but also for a number of other smaller companies. For some of their maintenance, they contract third party, mostly foreign companies, such as MTU (Germany) and Honeywell as well as national companies, such as VARIG and GE Celma. In addition to providing aircraft maintenance for small aircraft such as Cessna, TAM also provides maintenance services for helicopters. TAM entered into the helicopter market last year as the representative of Bell Helicopter.

GOL AIRLINE: GOL is investing R\$ 30 million (US\$13.5 million) to build its own maintenance repair center in Minas Gerais. Currently, GOL's maintenance is done at VARIG, Astronic (Rio de Janeiro), and Collins (São José dos Campos). The Supply Department is responsible for the acquisition of new components. Construction has already begun at Belo Horizonte's International Airport.

VARIG: VARIG Engineering & Maintenance (VEM) has been providing the aviation industry with quality maintenance for over seventy years. Their technical staff and traditional high standards have given them a reputation for excellence. The VARIG Engineering and Maintenance Complex is composed of 2 Maintenance Centers (CEMANs) and 47 Line Stations. The CEMANs (main bases), are located in Porto Alegre (CEMAN POA), and in Rio de Janeiro (CEMAN GIG), and are capable of providing heavy maintenance (repair and overhaul) for their aircraft and components. Partnerships include E-VARIG Engines Services Joint Venture, Honeywell Authorized Repair Center, Litton, Star Alliance, and Sundstrand. Very few components are sent out of country to the OEM's for repair. The purchase of parts is made directly from the manufacturer. Varig's fleet is now comprised entirely of Boeing aircraft.

GENERAL ELECTRIC: General Electric took over control of Celma, in Petrópolis (State of Rio de Janeiro) when it was privatized in 1990. Later, GE did a joint venture with VARIG and now owns 95% of the company.

BRAZILIAN MILITARY AVIATION – MAINTENANCE: The Brazilian Air Force (FAB) does its maintenance under the duty of PAMAS - *Parque de Material Aeronáutico* and from the "Esquadrões de Suprimento e Manutenção (ESM). Checks C and D are performed at PAMAS. Other checks and repairs are performed at ESM, and even at Air Force Bases.

Parts & Components Market

In 2005, Brazil imported approximately US\$ 788 million (FOB) in parts & components for helicopters and aircraft. Around 25 percent of these materials were for the executive aviation.

There are several small companies that supply the Brazilian market. Most of these small companies have distribution agreements with U.S. manufacturers and suppliers. Therefore, their inventories are permanently supplied under conditions of credibility, guaranteeing quality and speed in the fulfillment of workshop demands. Brazil imports electronic parts, hydraulic systems, parts and components for engines, and equipment to increase flight security and safety. There are several small Brazilian companies working in this market such as Recominte, Aeromot, Real Aerovias, Aviaiton Parts, JP Martins, amongst others.

AEROMOT: This group from the South of Brazil, works with aeronautic maintenance as well as distributing parts and components. Aeromot is the distributor of Lycoming, Champion, Unison, amongst others. It also provides parts for Piper, Cessna, and Beechcraft.

RECOMINTE: Recominte was founded in 1990 as a representative and distributor of parts, components, and tools for the aviation sector including the agriculture aviation. It also does some repair center work.

BRAZILIAN IMPORTS OF PARTS & COMPONENTS FOR HELICOPTERS & AIRPLANES

Country	US\$ million dollars (FOB)
United States	324
Europe	378
Others	86
TOTAL	788

Source: Ministry of Development, Industry and Trade Commerce. Trade Balance 2005.

Market Regulamentation

The Brazilian Market is regulated according to the RBHA 145. RBHA stands for Brazilian Regulation for Aeronautic Maintenance. RBHA 145 sets out those requirements that an aviation maintenance firm must meet in order for it to receive an accreditation certificate, called CHE, which is literally translated to mean "Homologation Certificate." Currently, the Department of Civil Aviation (DAC) is responsible for the CHE certification process. However, the Brazilian Government has recently approved the creation of a new National Agency of Civil Aviation (ANAC), which will soon become responsible for this process. Maintenance repair centers must submit certification requests and renewals, by mail, to DAC's headquarters at the following address:

**DEPARTAMENTO DE AVIAÇÃO CIVIL
RUA SANTA LUZIA, 651 - 3º Andar
CASTELO - RIO DE JANEIRO - RJ
CEP: 20030-040 BRASIL**

Information about how can a foreign maintenance company can obtain a Certificate of Approval in Brazil can be found at: <http://www.dac.gov.br/manutencaoing/certificado.asp>

Best Prospects for U.S. Firms

Brazil imports a large volume of electronic parts, components, hydraulic systems, and parts for engines from the United States, as there are no local manufacturers of these products. Accordingly, the Brazilian maintenance market offers a good business opportunity for U.S. suppliers of aircraft parts and components.

In addition to this, a great deal of engine maintenance is still done outside of Brazil. Generally, engines are shipped to maintenance centers in the United States and Europe for deep maintenance and modification. Even though this process takes approximately 45 days in order to be completed, due to the Brazilian customs clearance process, it represents a good business opportunity for U.S. companies that provide engine maintenance services.

In the military maintenance segment, in addition to the *Centro Logistico da Aeronautica* located in Sao Paulo, which is responsible for the acquisition of parts and components for the Brazilian Air Force, the

Brazilian Aeronautic Commission in Washington, DC also undertakes periodic price solicitation tenders for the acquisition of parts and components. U.S. companies' interested in supplying the Brazilian Air Force should not only establish a local representative in Brazil, but should also register themselves with the Brazilian Aeronautic Commission in Washington, DC. Due to the competitive nature of the market, firms providing the most attractive financing arrangements are generally more competitive.

Major events in Brazil:

LABACE – Executive Aviation

August 10 – 12 2006

São Paulo, Brazil

www.labace.aero

Latin America Aerospace & Defense

LAAD 2005

April 17 – 20, 2007

Rio de Janeiro, Brazil

www.reedexpo.com

The extensive importation of parts & components for the aircraft and helicopter market in Brazil creates demand for the importation of state-of-the-art technology and equipment. There is great potential to export U.S. goods and equipment. Companies interested in the maintenance sector in Brazil should contact the U.S. Department of Commerce in Brasília to learn about upcoming business opportunities and events that the Commercial Services is organizing to promote U.S. products and services.

Sources used to write this report include:

Department of Civil Aviation (DAC): www.dac.gov.br

Aviação em Revista: www.aviacaoemrevista.com.br

Overhaul & Maintenance Magazine

For more reports on this sector in other countries, please visit Export.gov's site for U.S. Commercial Service Market Research Worldwide: <http://www.export.gov/marketresearch.html>

For More Information

The U.S. Commercial Service offers a range of services to assist U.S. exporters. For more information about export opportunities in this sector contact U.S. Commercial Service Industry Specialist:

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